

ABSTRACT

Some embodiments provide a charge pump to output a first control signal and a second control signal based on a frequency of an oscillating signal and a reference frequency, a switch capacitor circuit to generate a first output capacitance based on the first
5 control signal, a main loop circuit to generate an output signal based on the second control signal, and an oscillating circuit to generate the oscillating signal, the frequency of the oscillating signal based at least on the first output capacitance and the output signal.